



SPP9547

P-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPP9547 is the P-Channel logic enhancement mode power field effect transistors are produced using high cell density, DMOS trench technology.

This high density process is especially tailored to minimize on-state resistance.

These devices are particularly suited for low voltage application, notebook computer power management and other battery powered circuits where high-side switching.

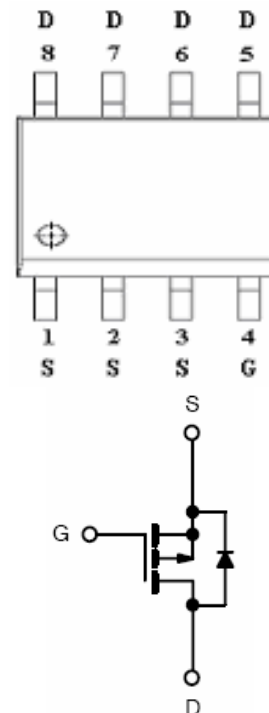
FEATURES

- ◆ -40V/-7.2A, $R_{DS(ON)} = 95m\Omega @ V_{GS} = -10V$
- ◆ -40V/-5.0A, $R_{DS(ON)} = 110m\Omega @ V_{GS} = -4.5V$
- ◆ Super high density cell design for extremely low $R_{DS(ON)}$
- ◆ Exceptional on-resistance and maximum DC current capability
- ◆ SOP – 8P package design

APPLICATIONS

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

PIN CONFIGURATION(SOP – 8P)



PART MARKING





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PIN DESCRIPTION

Pin	Symbol	Description
1	S	Source
2	S	Source
3	S	Source
4	G	Gate
5	D	Drain
6	D	Drain
7	D	Drain
8	D	Drain

ORDERING INFORMATION

Part Number	Package	Part Marking
SPP9547S8RGB	SOP- 8P	SPP9547

※ SPP9547S8RGB 13" Tape Reel ; Pb – Free ; Halogen – Free

ABSOLUTE MAXIMUM RATINGS

(TA=25°C Unless otherwise noted)

Parameter	Symbol	Typical	Unit
Drain-Source Voltage	V _{DSS}	-40	V
Gate –Source Voltage	V _{GSS}	±20	V
Continuous Drain Current(T _J =150°C)	I _D	TA=25°C	-7.2
		TA=70°C	-5.0
Pulsed Drain Current	I _{DM}	-25	A
Continuous Source Current(Diode Conduction)	I _S	-2.3	A
Power Dissipation	P _D	TA=25°C	2.8
		TA=70°C	1.8
Operating Junction Temperature	T _J	-55/150	°C
Storage Temperature Range	T _{STG}	-55/150	°C
Thermal Resistance-Junction to Ambient	R _{θJA}	70	°C/W



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ELECTRICAL CHARACTERISTICS

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Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-40			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.8		-2.5	
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-36V, V_{GS}=0V$			-1	uA
		$V_{DS}=-36V, V_{GS}=0V$ $T_J=85^\circ C$			-5	
On-State Drain Current	$I_{D(on)}$	$V_{DS}=-5V, V_{GS}=-4.5V$	-10			A
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-7.2A$		0.082	0.095	Ω
		$V_{GS}=-4.5V, I_D=-5.0A$		0.095	0.110	
Forward Transconductance	g_{fs}	$V_{DS}=-15V, I_D=-5.7A$		13		S
Diode Forward Voltage	V_{SD}	$I_S=-1.3A, V_{GS}=0V$		-0.55	-1.0	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=-15V, V_{GS}=-10V$ $I_D=-3.5A$		9	12	nC
Gate-Source Charge	Q_{gs}			1.5		
Gate-Drain Charge	Q_{gd}			2.0		
Input Capacitance	C_{iss}	$V_{DS}=-15V, V_{GS}=0V$ $f=1MHz$		500		pF
Output Capacitance	C_{oss}			95		
Reverse Transfer Capacitance	C_{rss}			50		
Turn-On Time	$t_{d(on)}$	$V_{DD}=-15V, R_L=15\Omega$ $I_D=-1.0A, V_{GEN}=-10V$ $R_G=6\Omega$		8	20	nS
	t_r			10	20	
Turn-Off Time	$t_{d(off)}$			30	35	
	t_f			15	20	

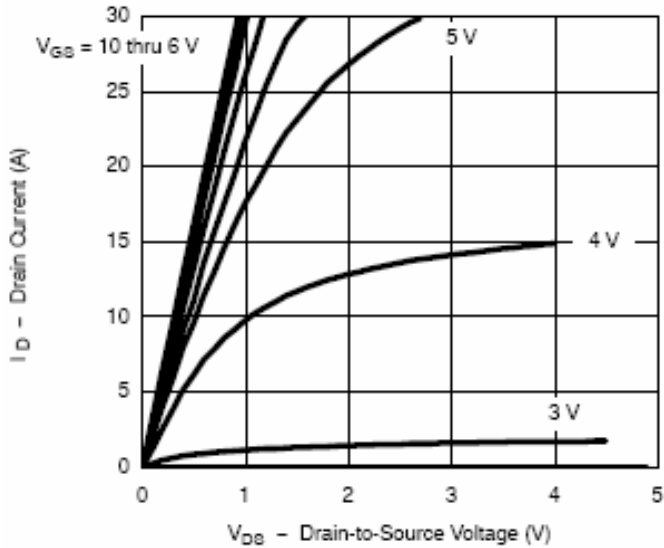


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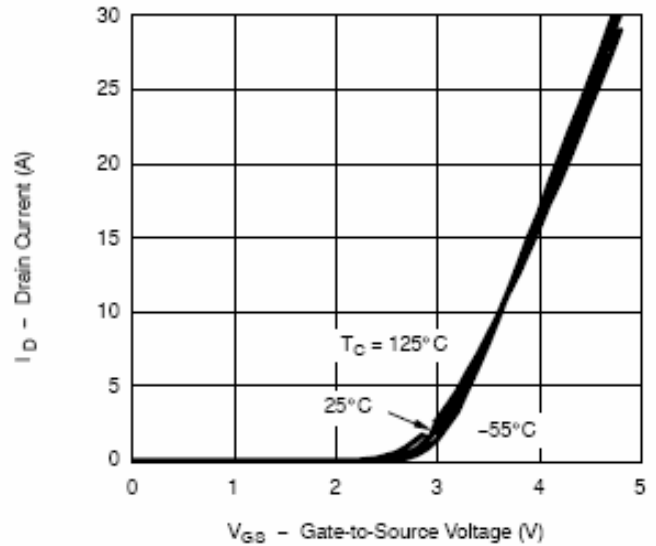
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TYPICAL CHARACTERISTICS

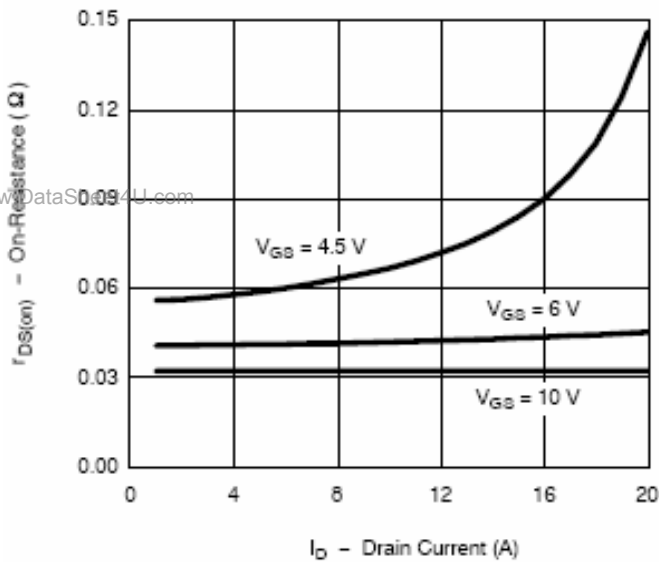
Output Characteristics



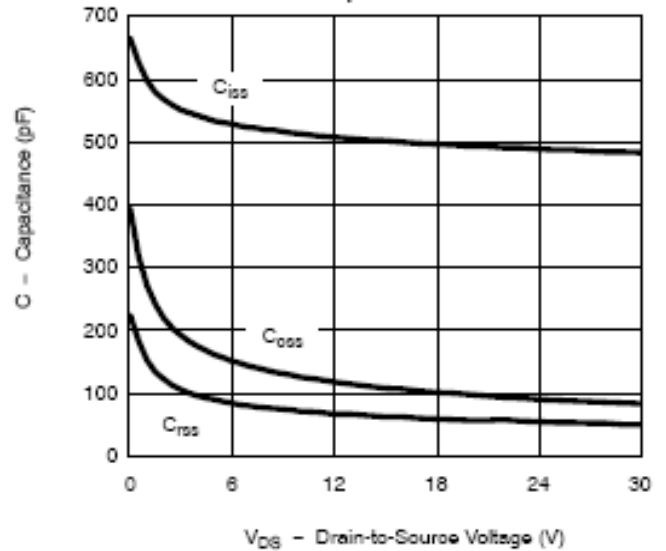
Transfer Characteristics



On-Resistance vs. Drain Current



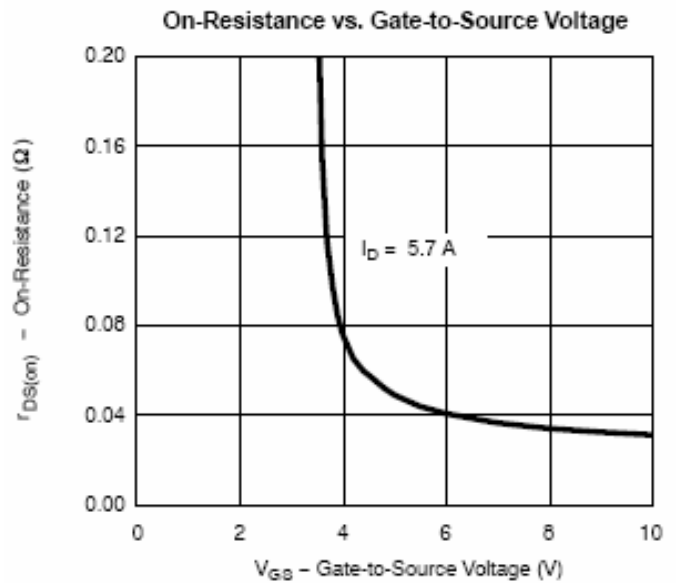
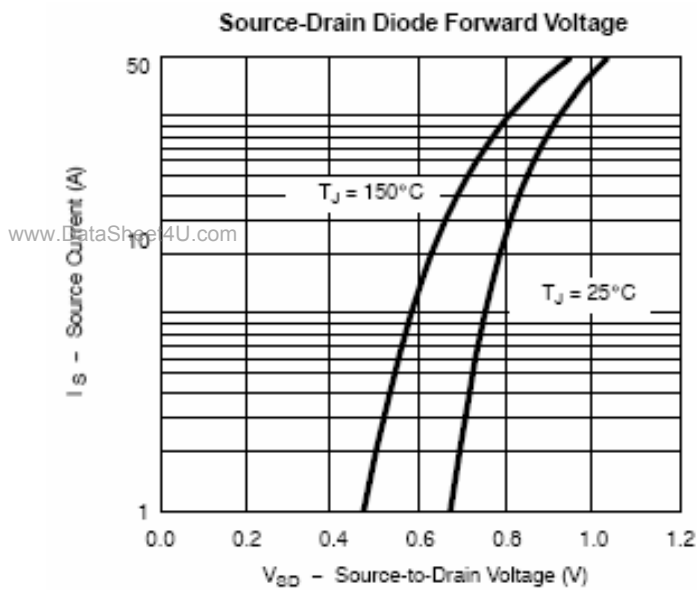
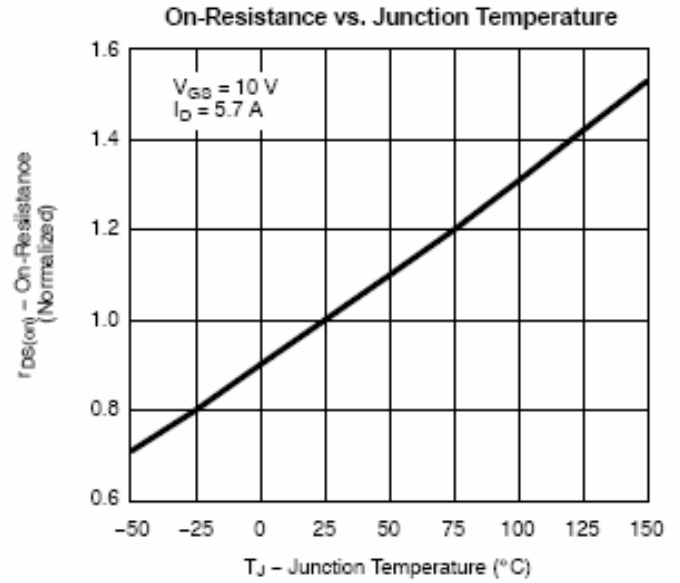
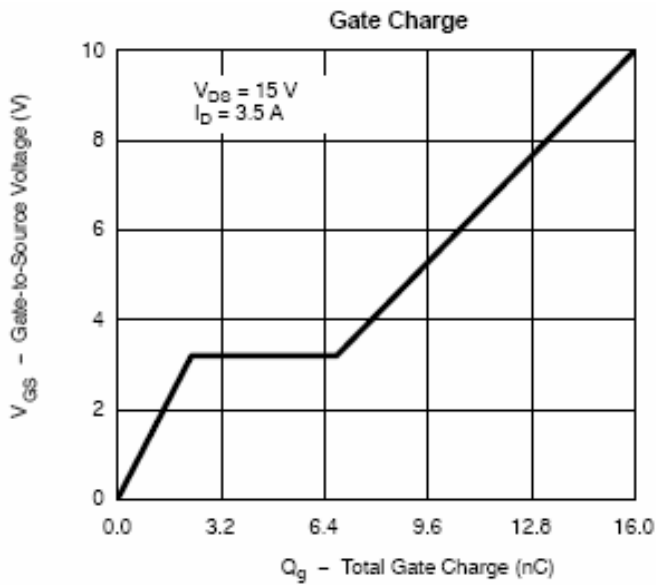
Capacitance





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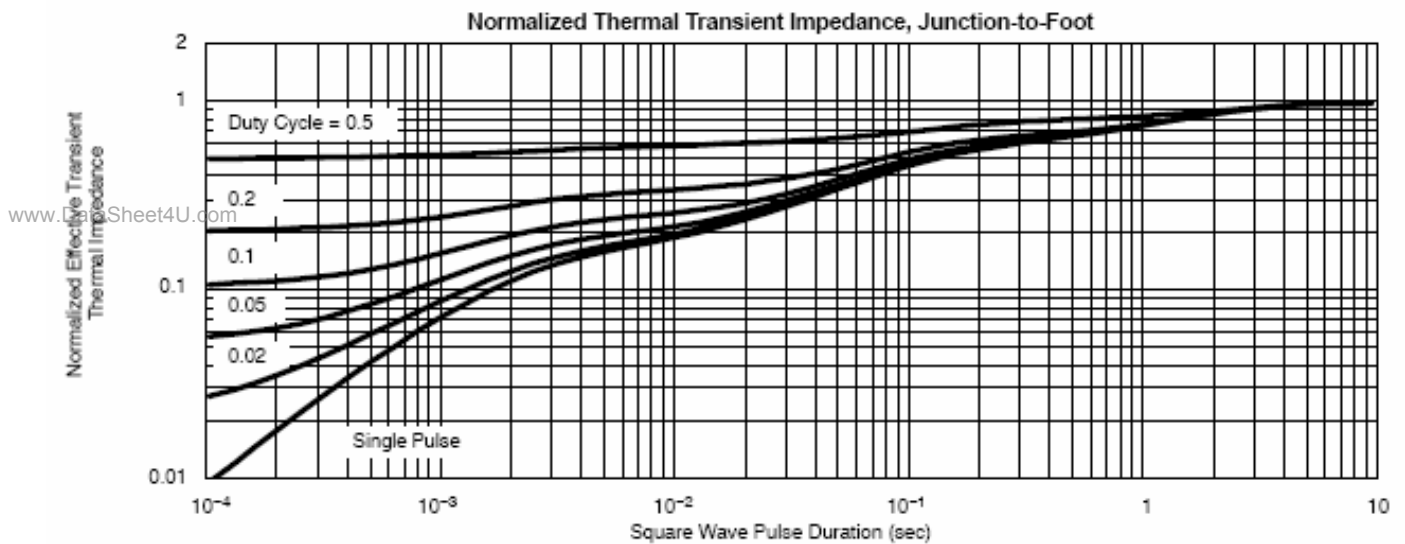
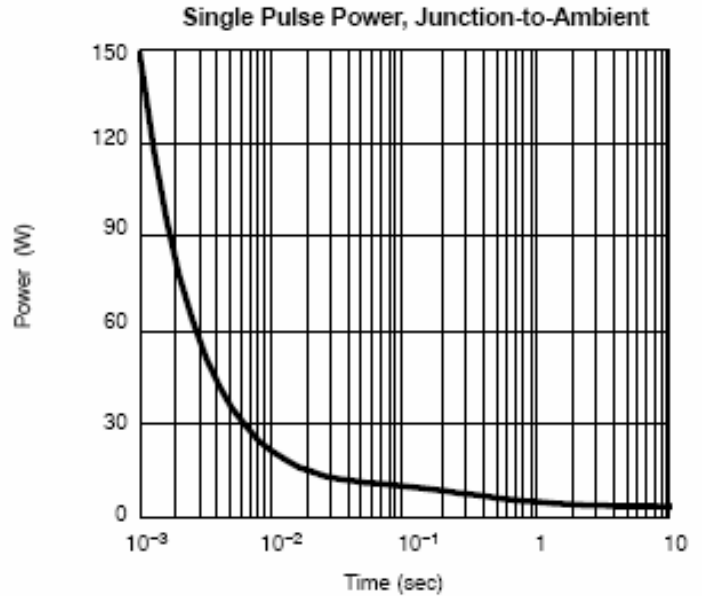
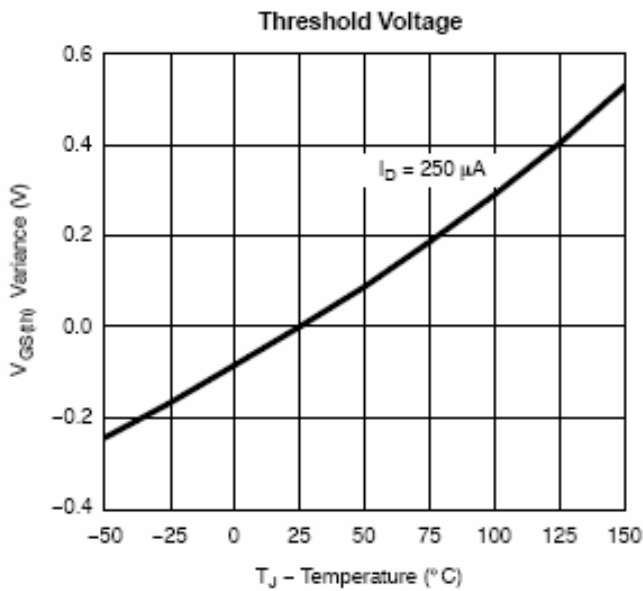
TYPICAL CHARACTERISTICS





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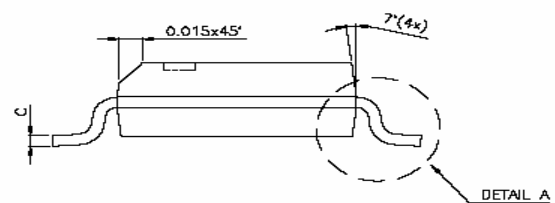
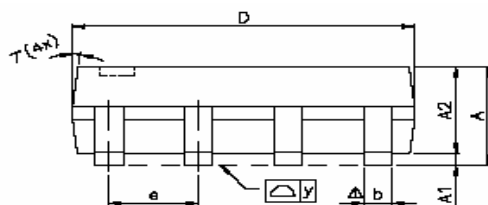
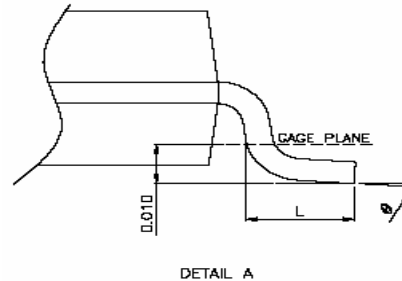
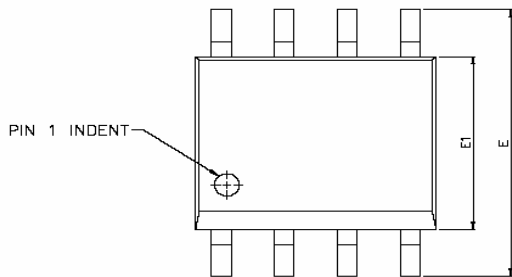




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SOP- 8 PACKAGE OUTLINE



SYMBOLS	DIMENSIONS IN MILLIMETERS			DIMENSIONS IN INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.47	1.60	1.73	0.058	0.063	0.068
A1	0.10	—	0.25	0.004	—	0.010
A2	—	1.45	—	—	0.057	—
b	0.33	0.41	0.51	0.013	0.016	0.020
C	0.19	0.20	0.25	0.0075	0.008	0.0098
D	4.80	4.85	4.95	0.189	0.191	0.195
E	5.80	6.00	6.20	0.228	0.236	0.244
E1	3.80	3.90	4.00	0.150	0.154	0.157
e	—	1.27	—	—	0.050	—
L	0.38	0.71	1.27	0.015	0.028	0.050
Δ y	—	—	0.076	—	—	0.003
\varnothing	0°	—	8°	0°	—	8°



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